```
=> d his

     (FILE 'HOME' ENTERED AT 11:22:05 ON 04 DEC 2002)

     FILE 'REGISTRY' ENTERED AT 11:22:14 ON 04 DEC 2002
L1             1 S 9076-63-5/RN

     FILE 'HCAPLUS' ENTERED AT 11:22:29 ON 04 DEC 2002

     FILE 'REGISTRY' ENTERED AT 11:22:32 ON 04 DEC 2002
                SET SMARTSELECT ON
L2           SEL L1 1- CHEM :        4 TERMS
                SET SMARTSELECT OFF

     FILE 'HCAPLUS' ENTERED AT 11:22:33 ON 04 DEC 2002
L3             5 S L2
                E FLAVOBACTERIUM/CT
                E E3+ALL
L4             1 S L3 (L) (FLAVOBACTERIUM LUTESCENS OR FLAVOBACTER?)

=>
```

L5 ANSWER 4 OF 4 REGISTRY COPYRIGHT 2002 ACS
RN 9076-63-5 REGISTRY
CN **Dehydrogenase, L-pipecolate (9CI)** (CA INDEX NAME)
OTHER NAMES:
CN E.C. 1.5.99.3
CN **L-Pipecolate dehydrogenase**
CN **Piperidine-6-carboxylate dehydrogenase**
MF Unspecified
CI MAN
LC STN Files: BIOSIS, CA, CAPLUS

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
5 REFERENCES IN FILE CA (1962 TO DATE)
5 REFERENCES IN FILE CAPLUS (1962 TO DATE)

=> d ibib ab 1

L4 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:117169 HCAPLUS
DOCUMENT NUMBER: 132:162810
TITLE: Cloning of genes for L-lysine-2-oxoglutarate 6-aminotransferase and **piperidine-6-carboxylate dehydrogenase** from **Flavobacterium lutescens** and use of the genes for production of L-homoglutamic acid
INVENTOR(S): Fujii, Tadashi; Narita, Takao; Nakata, Kuniho; Agematu, Hitosi; Tsunekawa, Hiroshi; Isshiki, Kunio; Yoshioka, Takeo
PATENT ASSIGNEE(S): Mercian Corp., Japan
SOURCE: PCT Int. Appl., 62 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000008170	A1	20000217	WO 1999-JP4197	19990804
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2337981	AA	20000217	CA 1999-2337981	19990804
AU 9950642	A1	20000228	AU 1999-50642	19990804
EP 1103612	A1	20010530	EP 1999-935047	19990804
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.:
JP 1998-232382 A 19980805
JP 1999-182362 A 19990628
WO 1999-J9 990419W 19990804
WO 1999-JP4197 W 19990804

AB The genes encoding L-lysine-2-oxoglutarate 6-aminotransferase (LAT) and piperidine-6-carboxylate (P6C) dehydrogenase are isolated from Flavobacterium lutescens strain IFO 3084 and used for the transformation of F. lutescens to increase the yield of L-homoglutamic acid. LAT and P6C dehydrogenase are comprised of 491 and 510 amino acids, resp. Transformation of F. lutescens with the gene for LAT or P6C dehydrogenase increased the yield of L-homoglutamic acid by 1.5-2 folds.

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d l3 ibib ab 1-5

L3 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:117169 HCAPLUS
DOCUMENT NUMBER: 132:162810
TITLE: Cloning of genes for L-lysine-2-oxoglutarate 6-aminotransferase and **piperidine-6-carboxylate dehydrogenase** from Flavobacterium lutescens and use of the genes for production of L-homoglutamic acid
INVENTOR(S): Fujii, Tadashi; Narita, Takao; Nakata, Kuniho; Agematu, Hitosi; Tsunekawa, Hiroshi; Isshiki, Kunio; Yoshioka, Takeo
PATENT ASSIGNEE(S): Mercian Corp., Japan
SOURCE: PCT Int. Appl., 62 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000008170	A1	20000217	WO 1999-JP4197	19990804
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2337981	AA	20000217	CA 1999-2337981	19990804
AU 9950642	A1	20000228	AU 1999-50642	19990804
EP 1103612	A1	20010530	EP 1999-935047	19990804
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.:
JP 1998-232382 A 19980805
JP 1999-182362 A 19990628
WO 1999-J9 990419W 19990804
WO 1999-JP4197 W 19990804

AB The genes encoding L-lysine-2-oxoglutarate 6-aminotransferase (LAT) and piperidine-6-carboxylate (P6C) dehydrogenase are isolated from Flavobacterium lutescens strain IFO 3084 and used for the transformation of F. lutescens to increase the yield of L-homoglutamic acid. LAT and P6C dehydrogenase are comprised of 491 and 510 amino acids, resp. Transformation of F. lutescens with the gene for LAT or P6C dehydrogenase increased the yield of L-homoglutamic acid by 1.5-2 folds.
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1980:195215 HCAPLUS
DOCUMENT NUMBER: 92:195215
TITLE: Enzyme of pipecolate metabolism. Studies on the question of regional piperidine synthesis in the mouse brain
AUTHOR(S): Garweg, G.; Von Rehren, D.; Hintze, U.
CORPORATE SOURCE: Anat. Inst., Univ. Hamburg, Hamburg, Fed. Rep. Ger.
SOURCE: Verhandlungen der Anatomischen Gesellschaft (1979), Volume Date 1978, 73(2), 1051-2
CODEN: VHAGAS; ISSN: 0066-1562
DOCUMENT TYPE: Journal
LANGUAGE: German
AB The distribution of .DELTA.1-pyrrolin-2-carboxylate reductase, **L-pipecolate dehydrogenase**, and .DELTA.1-piperideine-6-carboxylate dehydrogenase activities in various regions of mouse brain was detd. A marked activity difference, with the max. conversion rate

occurring in the prosencephalon and a lack of activity in cerebellum and medulla spinalis, was obsd. only for pyrrolin-2-carboxylate reductase. The expression of region-specific biogenesis of pipecolic acid in mouse brain was in between that previously reported for dog and monkey. In contrast to them, the distribution of pipecolate dehydrogenase and piperideine-6-carboxylate dehydrogenase in mouse brain showed an extensive, equal distribution in all areas of the brain.

L3 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1972:55563 HCAPLUS
DOCUMENT NUMBER: 76:55563
TITLE: Pipecolic acid
AUTHOR(S): Rodwell, Victor W.
CORPORATE SOURCE: Dep. Biochem., Purdue Univ., Lafayette, Indiana, USA
SOURCE: Methods Enzymol. (1971), Volume 17, Issue Pt. B, 174-88. Editor(s): Colowick, S. P. Academic: New York, N. Y.
CODEN: 18HWA8
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Improved methods are given for synthesis of DL-pipecolic acid (I), with 2 methods for the resolution of I into D- and L-forms. In a new procedure, L-pipecolic acid (II) is obtained from fresh green beans (Phaseolus vulgaris). Phys. and chem. properties of I and II are given. Spectra are given (300-650 m.mu.) for the adducts of various imino acids with ninhydrin. When paper chromatograms are sprayed with ninhydrin in EtOH or acetone, the initial color with I is purple, like amino acids. On standing (particularly if collidine is present) the color changes to yellow-brown. If Cd acetate is added to the ninhydrin reagent, .alpha.-amino acids give red colors. The I color remains royal purple, providing a spot test for I. The purification and assay of II-dehydrogenase from Pseudomonas putida P2 (ATCC 25.571) are described. Properties of the enzyme are described.

L3 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1967:513926 HCAPLUS
DOCUMENT NUMBER: 67:113926
TITLE: Metabolism of pipecolic acid in a Pseudomonas species. V. Pipecolate oxidase and dehydrogenase
AUTHOR(S): Baginsky, Marietta L.; Rodwell, Victor W.
CORPORATE SOURCE: Sch. of Med., Univ. of California, San Francisco, CA, USA
SOURCE: J. Bacteriol. (1967), 94(4), 1034-9
CODEN: JOBAAY
DOCUMENT TYPE: Journal
LANGUAGE: English
AB cf. CA 65: 7493h. Oxidn. of pipecolate to .DELTA.1-piperideine-6-carboxylate is catalyzed by pipecolate oxidase, an inducible, membrane-bound dehydrogenase assocd. with the electron transport components of P. putida P2. From the oxidase a smaller particle contg. FAD and cytochrome b was obtained, but it was not able to catalyze electron transfer to O or to cytochrome c. Certain properties of the **L-pipecolate dehydrogenase** (I) an FAD-flavoprotein, are reported. Neither O nor mammalian cytochrome c served as electron acceptors for pipecolate oxidn. by I. The apparent Km for L-pipecolate was 1.7 .times. 10-2M. 17 references.

L3 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1967:112374 HCAPLUS
DOCUMENT NUMBER: 66:112374
TITLE: Studies on the electron transport particle of Pseudomonas P2 and purification of pipecolic acid dehydrogenase
AUTHOR(S): Baginsky, Marietta L.
CORPORATE SOURCE: Univ. of California, San Francisco, CA, USA
SOURCE: (1967) 170 pp. Avail.: 65-4894
From: Diss. Abstr. B 1967, 27(7), 2268
DOCUMENT TYPE: Dissertation
LANGUAGE: English

AB) Unavailable